

R E M A R K S

The Examiner has rejected claims 1-8, 10, 11, 14-16, and 18-24 under 35 USC 103. In addition, the Examiner rejects claims 12, 13, 18-20, 25, and 26 under 35 USC 112, 2nd paragraph.

Claims 1-8, 14-16, 18, and 20-26 remain pending. The claims have been amended to correct various typographical errors and to further clarify the subject matter regarded as the invention. The claim rejections are traversed below.

Reconsideration of the application is respectfully requested based on the following remarks.

REJECTION OF CLAIMS UNDER 35 USC §112

The Examiner has rejected claims 12, 13, 18-20, 25, and 26 under 35 USC 112, second paragraph. The Examiner has asked “how is the NAT using the entry in the translation table differ from an entry in the identified one of the plurality of routing tables...” and “whether the routing the packet using the identified routing table entry, also uses the entry in the translation table.”

With respect to the rejected claims, Applicant respectfully asserts that a translation table is used to perform NAT, while a routing table is used to route a packet. It is well known that packet routing and network address translation are two different processes. Specifically, NAT may be performed on a packet prior to routing the packet. Applicant respectfully asserts that the claim limitations clearly recite the performing of NAT using a translation table and the routing of a packet using a routing table.

In one embodiment, once a VPN identifier is obtained from the packet, the VPN identifier may be used to perform NAT (e.g. by identifying an entry in a translation table) and may also be used (directly or indirectly) to identify one of a plurality of routing tables that will be used to route the packet. For instance, the VPN identifier or a routing table identifier that corresponds to the VPN identifier may be used to identify one of the plurality of routing tables that will be used to route the packet. However, the routing table and translation table are two different tables used for two entirely different purposes. While the information that may be used to select a routing table (e.g., VPN identifier or routing table identifier that corresponds to the VPN identifier) may be stored in a translation table, this is not necessary for performing the claimed invention. Accordingly, Applicant respectfully requests that the Examiner withdraw the rejection of the claims under 35 USC 112.

REJECTION OF CLAIMS UNDER 35 USC §103

In the Office Action, the Examiner has rejected claims 1-8, 10, 11, 14-16, and 18-24 under 35 USC §103 as being unpatentable over Matsuhira, EP 1 298 853, (‘Matsuhira’ hereinafter) in view of Knee, U.S. Pub. No. 2002/0143787, (‘Knee’ hereinafter). Applicant respectfully traverses this rejection.

With respect to claims 1, 12, and 22-25, Figure 8 of Matsuhira does show multiple routing tables 501, 502, 503. However, it is important to note that each of the routing tables is not associated with a different virtual private network. For example, routing table 502 stores entries including VPN ID “1” and VPN ID “2,” while routing table 503 also stores entries VPN ID “1” and VPN ID “2.” Thus, it is clear from Figure 8 of Matsuhira that each of the virtual private networks of Matsuhira is not associated with a different routing table. Rather, the VPN associated with VPN ID 1 is identified in two different routing tables, while the VPN associated with VPN ID 2 is also identified in two different routing tables. Thus, Matsuhira teaches away from maintaining a plurality of routing tables, each of a plurality of virtual private networks being associated with a different one of the plurality of routing tables. Moreover, since Matsuhira fails to disclose or suggest maintaining a plurality of routing tables, each of the plurality of virtual private networks being associated with a different one of the plurality of routing tables, it would be impossible to identify one of the plurality of routing tables that corresponds to a particular VPN (e.g., VPN identifier). In fact, neither of the routing tables shown (routing tables 502 and 503) is associated with a particular VPN, since each of the routing tables includes entries corresponding to more than one VPN. Accordingly, the combination of the cited references would fail to operate as claimed.

The Examiner asserts that Matsuhira discloses “identifying one of the plurality of routing tables to route the packet using the information indicating one of the plurality of routing tables to route the packet.” Specifically, the Examiner asserts that “VPNs with IDs 1 and 2 have its own routing table.” However, it is clear from Figure 8 of Matsuhira that VPNs with IDs 1 and 2 do not have their own routing table. Rather, the VPNs with IDs 1 and 2 occur in both routing tables 502 and 503. As a result, it would be impossible to identify one of the routing tables to use based upon a VPN ID. In view of these deficiencies, the combination of the cited references would fail to operate as claimed. Accordingly, Applicant respectfully asserts that claims 1, 12, and 22-25 are patentable over the cited references.

With respect to independent claims 1, 14, 22, 23, and 24, the Examiner assert that Badran discloses “receiving a default route to a network device providing one or more shared services, the default route to the network device providing one or more shared services being advertised by the network device providing one or more shared services, wherein each of the shared services is available to each of the plurality of virtual private networks” and “updating

each of the plurality of routing tables to include the default route, thereby enabling the plurality of virtual private networks to access the shared services via the default route that is included in each of the plurality of routing tables.” It appears that the Examiner is referring to a FIB table. However, it does not appear that a FIB table includes a default route to a network device providing shared services to each of a plurality of virtual private networks. Moreover, it does not appear that each of the routing tables is updated, as claimed. To the contrary, the Examiner states that “BGP maps FIB tables to provide edge LSRs belonging to only a particular VPN.” Thus, it appears that these FIB tables of Badran are only mapped to one VPN, not all VPNs. Badran therefore teaches away from updating each of the routing tables to include the default route. In view of the above, Applicant respectfully asserts that Badran fails to disclose or suggest “receiving a default route to a network device providing one or more shared services, the default route to the network device providing one or more shared services being advertised by the network device providing one or more shared services, wherein each of the shared services is available to each of the plurality of virtual private networks” and “updating each of the plurality of routing tables to include the default route, thereby enabling the plurality of virtual private networks to access the shared services via the default route that is included in each of the plurality of routing tables.” Thus, the combination of the cited references would fail to operate as claimed. Accordingly, Applicant respectfully asserts that claims 1, 14, 22, 23, and 24 are patentable over the cited references.

With respect to each of the independent claims, it is also important to note that the label field of Figure 5 of Matsuhira is not shown to include a VPN identifier. The label field is merely described as a “unique value” that is set on a “link-by-link basis.” In view of the deficiencies of the cited art set forth above, Applicant respectfully asserts that the Examiner has failed to make out a prima facie case of obviousness. Accordingly, Applicant respectfully asserts that the independent claims are patentable over the cited references.

The dependent claims depend from one of the independent claims and are therefore patentable for at least the same reasons. However, the dependent claims recite additional limitations that further distinguish them from the cited references. The additional limitations recited in the independent claims or the dependent claims are not further discussed, as the above discussed limitations are clearly sufficient to distinguish the claimed invention from the cited references. Thus, it is respectfully requested that the Examiner withdraw the rejection of the claims under 35 USC §103(a).

SUMMARY

If there are any issues remaining which the Examiner believes could be resolved through either a Supplemental Response or an Examiner's Amendment, the Examiner is respectfully requested to contact the undersigned attorney at the telephone number listed below.

Applicants hereby petition for an extension of time which may be required to maintain the pendency of this case, and any required fee for such extension or any further fee required in connection with the filing of this Amendment is to be charged to Deposit Account No. 504480 (Order No. CISCP340).

Respectfully submitted,
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